

18.

Solubility Equilibrium >

The Common Ion Effect



The Common Ion Effect

How can you predict whether precipitation will occur when two salt solutions are mixed?

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If the product of the concentrations of two ions in the mixture is greater than the K_{sp} of the compound formed from the ions, a precipitate will form.

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A **common ion** is an ion that is found in **both salts** in a solution. The *lowering* of the *solubility* of an ionic compound as a result of the addition of a common ion is called the **common ion effect**.

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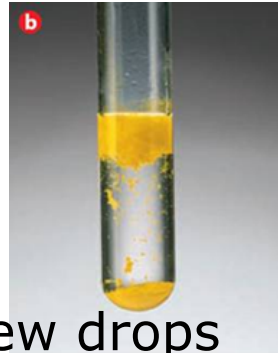
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18. Solubility Equilibrium > The Common Ion Effect



a

A saturated solution of lead(II) chromate is pale yellow.



b

When a few drops of lead(II) nitrate are added to the solution, more lead(II) chromate precipitates.

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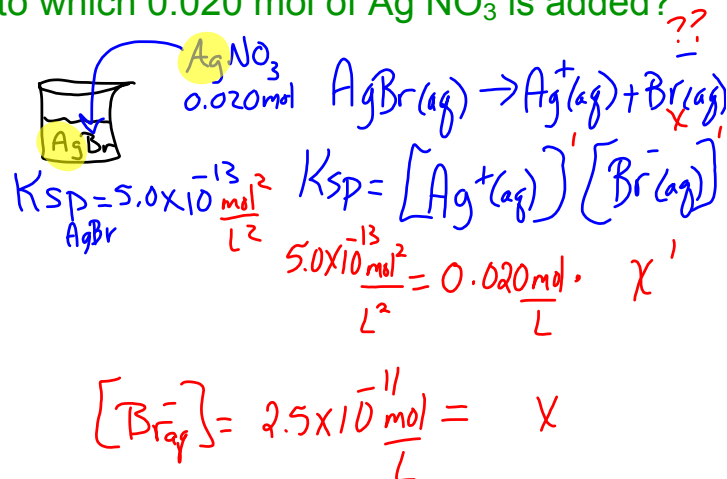
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Common ion effect

Example:

Common Ion Effect

What is the bromide ion concentration of a 1.00 L saturated solution of AgBr to which 0.020 mol of AgNO₃ is added?



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